Accounting: Tools for Business Decision Making

Seventh Edition

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Chapter 9

Reporting and Analyzing Long-Lived Assets

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Chapter Outline

Learning Objectives

LO 1 Explain the accounting for plant asset expenditures.

LO 2 Apply depreciation methods to plant assets.

LO 3 Explain how to account for the disposal of plant assets.

LO 4 Identify the basic issues related to reporting intangible assets.

LO 5 Discuss how long-lived assets are reported and analyzed.

Learning Objective 1

Explain the Accounting for Plant Asset Expenditures

Plant Asset Expenditures

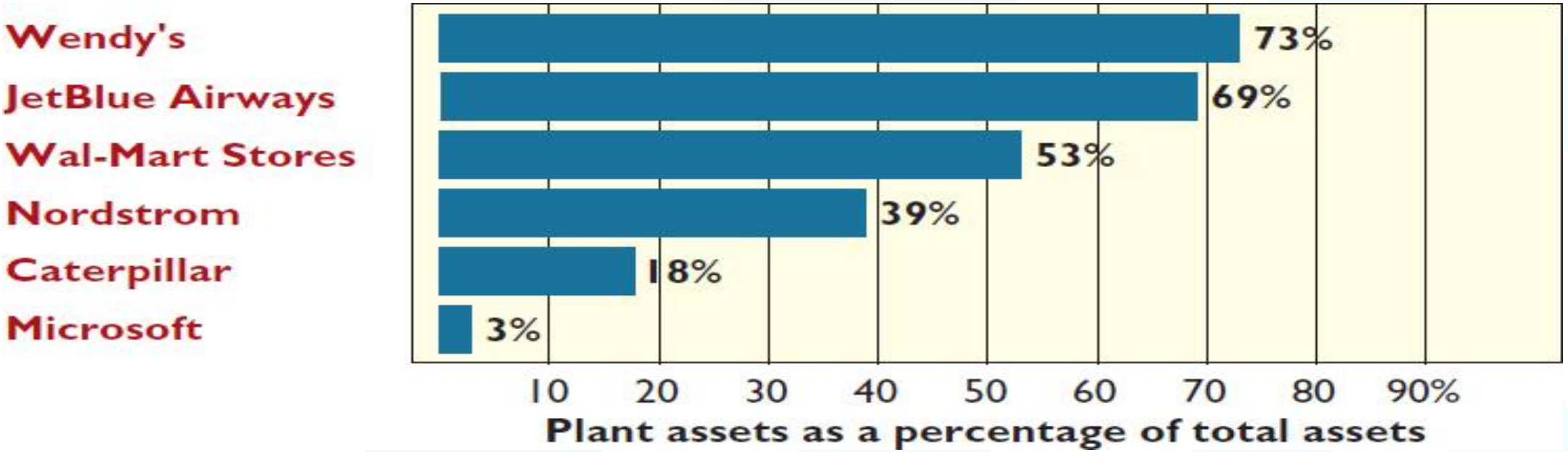
Plant assets are resources that have

- physical substance (a definite size and shape),
- are used in the operations of a business,
- are not intended for sale to customers,
- are expected to provide service to the company for a number of years,
- decline in service potential over useful lives (except for land).

Referred to as property, plant, and equipment; plant and equipment; and fixed assets.

Plant Assets

Plant assets are critical to a company's success.



Valuation Plant Assets

- Historical cost principle
  - Requires that companies record plant assets at cost
  - Cost consists of all expenditures necessary to acquire an asset and make it ready for its intended use
- Measured by the cash paid in a cash transaction or the cash equivalent price paid
- **Cash equivalent price** is
  - **Fair value** of asset given up or
  - **Fair value** of asset received

whichever is more clearly determinable

Revenue and Capital Expenditures

- **Revenue expenditure**
  - Costs incurred to acquire a plant asset that are expensed immediately
- **Capital expenditures**
  - Costs included in a plant asset account

Cost of Land (1 of 3)

- **Include all necessary costs** incurred in making land **ready for its intended use**
  - Increase the Land account with a debit
- Costs typically include
  - Cash purchase price
  - Closing costs such as title and attorney's fees
  - Real estate brokers' commissions
  - Accrued property taxes and other liens on land assumed by purchaser at acquisition

Cost of Land (2 of 3)

Illustration: Hayes Company acquires real estate at a cash cost of $100,000. The property contains an old warehouse that is removed at a net cost of $6,000 ($7,500 in costs less $1,500 proceeds from salvaged materials). Additional expenditures are the attorney's fee, $1,000, and the real estate broker's commission, $8,000.

Required: Determine the amount to be reported as the cost of the land.

Cost of Land (3 of 3)

Required: Determine amount to be reported as the cost of the land.

	Land
Cash price of property	$100,000
Net removal cost of warehouse	6,000
Attorney's fees	1,000
Real estate broker's commission	8,000
Cost of land	**$115,000**

Cost of Land Improvements

- **Includes all expenditures** necessary to make the improvements ready for their intended use
- Limited useful lives
- Expense by depreciating over the useful lives
- Examples: paving, fencing, and lighting

Cost of Buildings

- **Includes all costs** related directly to purchase or construction
- Purchase costs
  - Purchase price, closing costs such as attorney's fees, title insurance, etc. and real estate broker's commission
- Remodeling and replacing or repairing the roof, floors, electrical wiring, and plumbing
- Construction costs
  - Contract price plus payments for architects' fees, building permits, and excavation costs

Cost of Equipment (1 of 3)

- **Include all costs** incurred in acquiring the equipment and preparing it for use
- Costs typically include
  - Cash purchase price
  - Sales taxes
  - Freight charges
  - Insurance during transit paid by purchaser
  - Expenditures for assembling, installing, and testing

Cost of Equipment (2 of 3)

Illustration: Lenard Company purchases a delivery truck at a cash price of $22,000. Related expenditures are sales taxes $1,320, painting and lettering $500, motor vehicle license $80, and a three-year accident insurance policy $1,600. **Compute the cost** of the delivery truck.

Delivery Truck	
Cash price	$22,000
Sales taxes	1,320
Painting and lettering	500
Cost of delivery truck	**$23,820**

Cost of Equipment (3 of 3)

Illustration: Lenard Company purchases a delivery truck at a cash price of $22,000. Related expenditures are sales taxes $1,320, painting and lettering $500, motor vehicle license $80, and a three-year accident insurance policy $1,600. Prepare the journal entry to record these costs.

Equipment	23,820	
License Expense	80	
Prepaid Insurance	1,600	
Cash		25,500

Expenditures During Useful Life

Ordinary repairs

- Expenditures to maintain the operating efficiency and productive life of the unit
- Debited to Maintenance and Repairs Expense

Additions and improvements

- Costs incurred to **increase** the operating efficiency, productive capacity, or useful life of a plant asset
- Debited to the related plant asset account

Do It! 1: Cost of Plant Assets

Drummond Corp. purchases a delivery truck and incurs the costs below. Explain how the company should account for each of these costs.

Invoice cost of $15,000 cash	**Cost of truck**
Sales taxes of $900	**Cost of truck**
Delivery costs of $500	**Cost of truck**
$200 for painting and lettering	**Cost of truck**
$600 for an annual insurance policy	**Operating expense**
$80 for a motor vehicle license	**Operating expense**

Learning Objective 2

Apply Depreciation Methods to Plant Assets

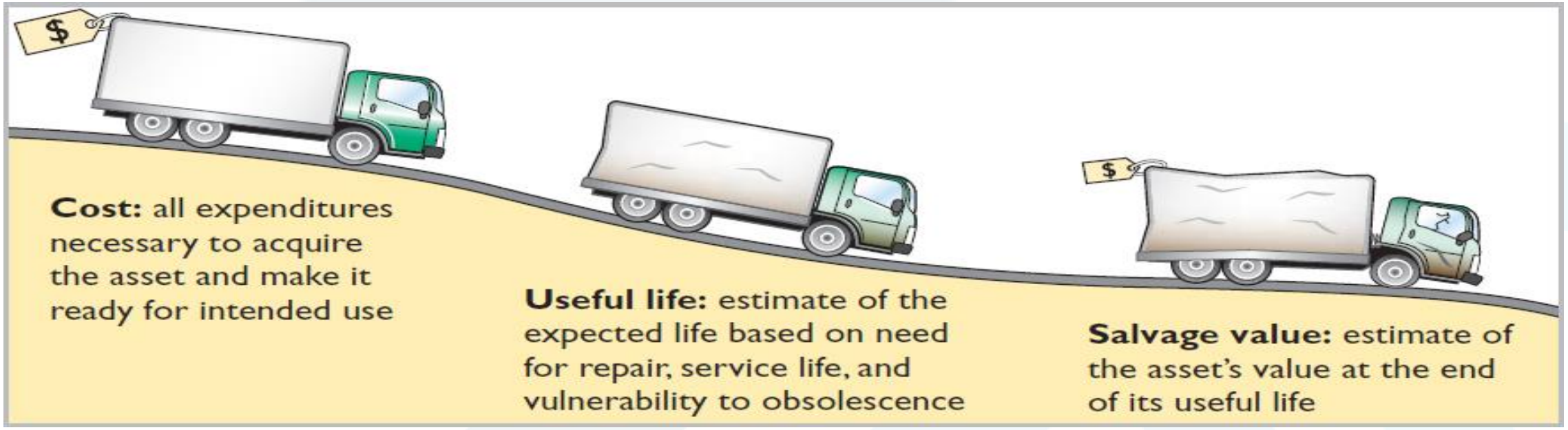
Depreciation

- Process of allocating to expense the cost of a plant asset over its useful life in a rational and systematic manner
  - Process of cost allocation, not asset valuation
  - Applies to land improvements, buildings, and equipment, not land
  - Allocated and depreciable, because the revenue-producing ability of the asset will decline over the asset's useful life

Depreciation expense Reported on the income statement

Accumulated depreciation Reported on the balance sheet as a deduction from plant assets

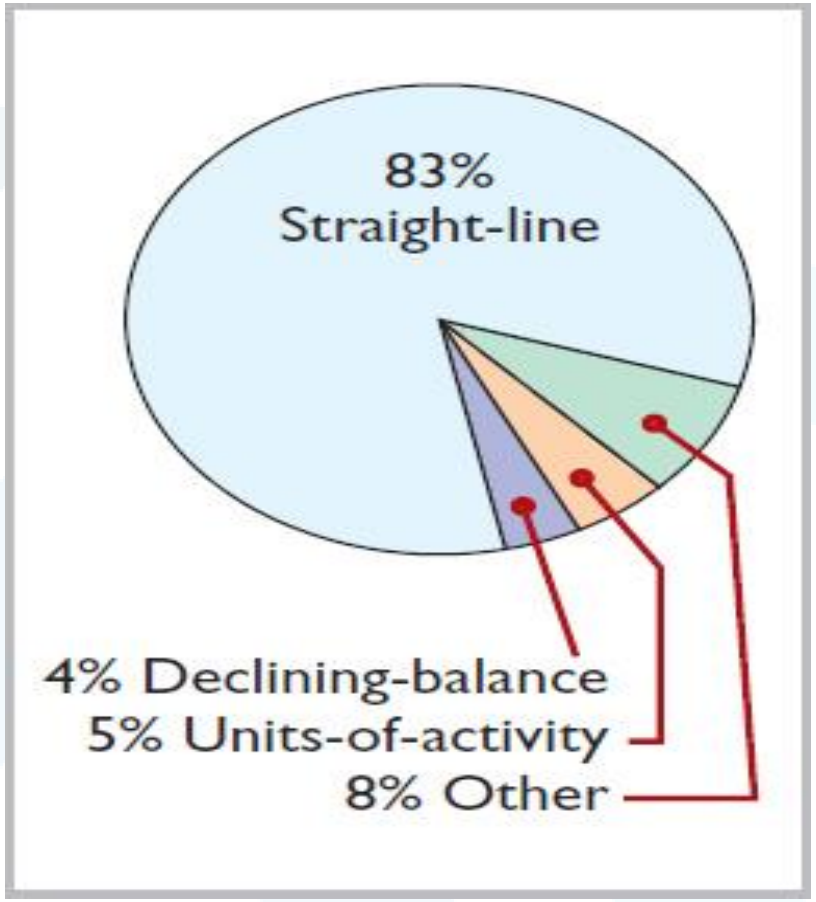
Factors in Computing Depreciation



Selecting a Depreciation Method

Management selects the method it believes best measures an asset's contribution to revenue over its useful life.

1) Straight-line method
2) Declining-balance method
3) Units-of-activity method



Calculating Depreciation

Illustration: Bill's Pizzas purchased a small delivery truck on January 1, 2022.

Cost	$13,000
Expected salvage value	$1,000
Estimated useful life (in years)	5
Estimated useful life (in miles)	100,000

Required: Compute depreciation using:

(a) Straight-Line. (b) Units-of-Activity. (c) Declining-Balance.

Straight-Line Method (1 of 2)

Depreciation expense is **same amount** each year.

Cost	–	Salvage Value	=	Depreciable Cost
$13,000	–	$1,000	=	$12,000

Depreciable Cost	÷	Useful Life (in years)	=	Depreciation Expense
$12,000	÷	5	=	$2,400

Straight-Line Method (2 of 2)

Year	Computation: Depreciable Cost	×	Computation: Depreciation Rate	=	Annual Depreciation Expense	End of Year: Accumulated Depreciation	End of Year: Book Value
2022	$12,000		20%		$ 2,400	$ 2,400	$10,600*
2023	12,000		20		2,400	4,800	8,200
2024	12,000		20		2,400	7,200	5,800
2025	12,000		20		2,400	9,600	3,400
2026	12,000		20		2,400	12,000	1,000
				Total	$12,000		

*$13,000 – $2,400

Annual Journal Entry

Dec. 31	Depreciation Expense	2,400	
	Accumulated Depreciation		2,400

Do It! 2a: Straight-Line Depreciation

On January 1, 2022, Iron Mountain Ski Corporation purchased a new snow-grooming machine for $50,000. The machine is estimated to have a 10-year life with a $2,000 salvage value. What journal entry would Iron Mountain Ski Corporation make at December 31, 2022, if it uses the straight-line method of depreciation?

$$\text{Depreciation expense} = \frac{\text{Cost} - \text{Salvage value}}{\text{Useful life}} = \frac{\$50,000 - \$2,000}{10} = \$4,800$$

Dec. 31	Depreciation Expense	4,800	
	Accumulated Depreciation—Equipment		4,800
	(To record annual depreciation on snow- grooming machine)		

Declining-Balance Method (1 of 2)

- Accelerated method
- Decreasing annual depreciation expense over asset's useful life
- Double-declining-balance rate is double the straight-line rate
- Rate applied to book value

Declining-Balance Method (2 of 2)

Year	Computation: Book Value Beginning of Year	×	Computation: Depreciation Rate	=	Annual Depreciation Expense	End of Year: Accumulated Depreciation	End of Year: Book Value
2022	$13,000		40%		$5,200	$ 5,200	$7,800*
2023	7,800		40		3,120	8,320	4,680
2024	4,680		40		1,872	10,192	2,808
2025	2,808		40		1,123	11,315	1,685
2026	1,685		40		685**	12,000	1,000

* $13,000 – $5,200

** $1,685 × 40% = $674, expense adjusted to $685 to result in salvage value of $1,000.

Units-of-Activity Method (1 of 2)

- Companies estimate total units of activity to calculate depreciation cost per unit
- Expense varies based on units of activity
- Depreciable cost is cost less salvage value

Depreciable Cost	÷	Total Units of Activity	=	Depreciation Cost per Unit
$12,000	÷	100,000 miles	=	$0.12

Depreciation Cost per Unit	×	Units of Activity during the Year	=	Depreciation Expense
$0.12	×	15,000 miles	=	$1,800

Units-of-Activity Method (2 of 2)

Year	Computation: Units of Activity	×	Computation: Depreciation Cost/Unit	=	Annual Depreciation Expense	End of Year: Accumulated Depreciation	End of Year: Book Value
2022	15,000		$0.12		$1,800	$ 1,800	$11,200*
2023	30,000		0.12		3,600	5,400	7,600
2024	20,000		0.12		2,400	7,800	5,200
2025	25,000		0.12		3,000	10,800	2,200
2026	10,000		0.12		1,200	12,000	1,000

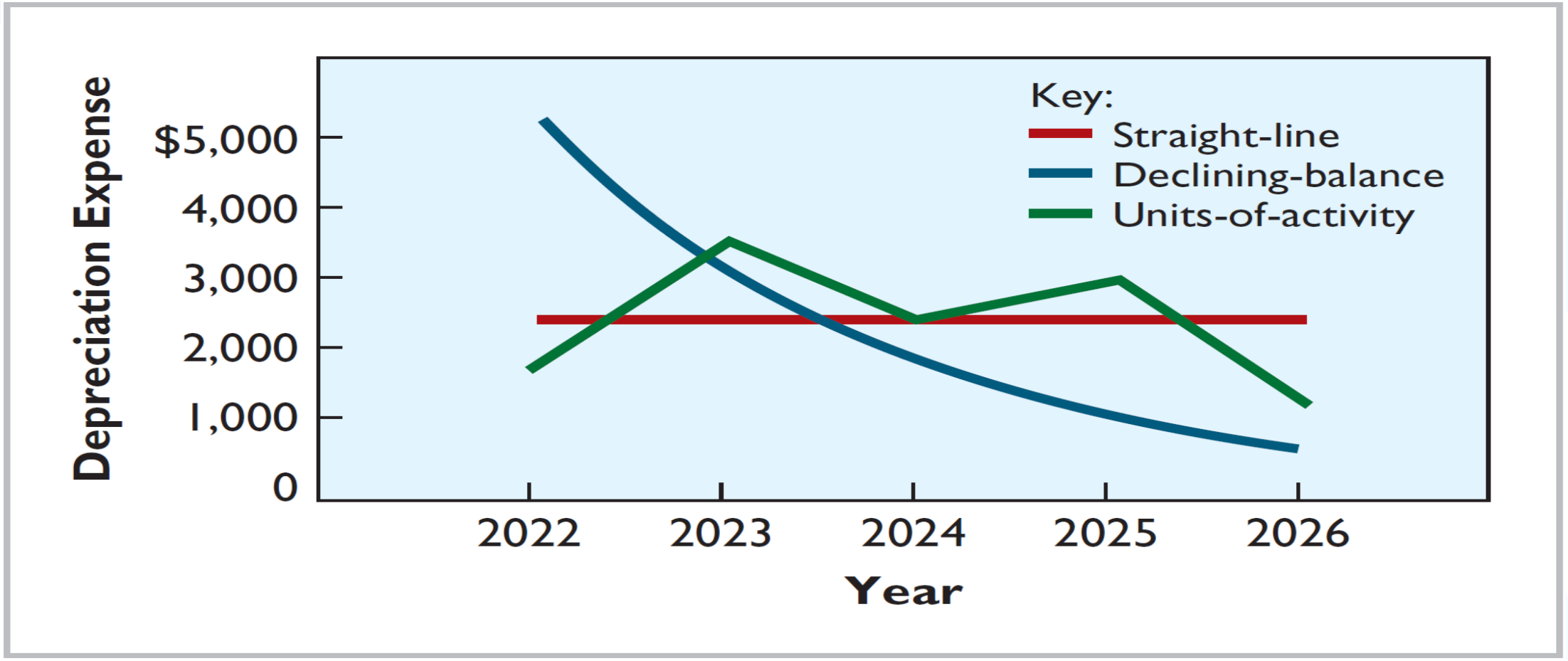
*$13,000 – $1,800

Management's Choice: Comparison (1 of 2)

Year	Straight-Line	Declining-Balance	Units-of-Activity
2022	$ 2,400	$ 5,200	$ 1,800
2023	2,400	3,120	3,600
2024	2,400	1,872	2,400
2025	2,400	1,123	3,000
2026	2,400	685	1,200
	$12,000	**$12,000**	**$12,000**

Annual depreciation expense varies, but total depreciation expense is the same ($12,000) for the five-year period.

Management's Choice: Comparison (2 of 2)



Learning Objective 3

Explain How to Account for the Disposal of Plant Assets

Disposal of Plant Assets

Three ways companies dispose of plant assets

Accounting for disposals

- Record depreciation up to the **date of disposal**
- **Eliminate asset** by
  - Debiting Accumulated Depreciation, and
  - Crediting the asset account

Determining Gain or Loss on the Sale of Plant Assets

- Compare the **book value** of the asset with the **proceeds** received from the sale
  - If proceeds **exceed** the book value, a **gain** on disposal occurs
  - If proceeds **are less than** the book value, a **loss** on disposal occurs

Accounting for Sale of Plant Assets (1 of 3)

Illustration: On July 1, 2022, Wright Company sells office furniture for $16,000 cash. The office furniture originally cost $60,000 and as of January 1, 2022, had accumulated depreciation of $41,000. Depreciation for the first six months of 2022 is $8,000. Wright records depreciation expense and updates accumulated depreciation to July 1 as follows.

Jul. 1	Depreciation Expense	8,000	
	Accumulated Depreciation		8,000

Accounting for Sale of Plant Assets (2 of 3)

Cost of office furniture	$60,000
Less: Accumulated depreciation ($41,000 + $8,000)	49,000
Book value at date of disposal	11,000
Proceeds from sale	16,000
Gain on disposal of plant asset	**$ 5,000**

Wright records the sale as follows on July 1.

Jul. 1	Cash	16,000	
	Accumulated Depreciation	49,000	
	Equipment		60,000
	Gain on Disposal of Plant Assets		5,000

Accounting for Sale of Plant Assets (3 of 3)

Illustration: Assume that instead of selling the office furniture for $16,000, Wright sells it for $9,000.

Cost of office furniture	$60,000
Less: Accumulated depreciation	49,000
Book value at date of disposal	11,000
Proceeds from sale	9,000
Loss on disposal of plant asset	**$ 2,000**

Jul. 1	Cash	9,000	
	Accumulated Depreciation	49,000	
	Loss on Disposal of Plant Assets	2,000	
	Equipment		60,000

Retirement of Plant Assets

- No cash is received
- Decrease Accumulated Depreciation with a debit for full amount of depreciation taken over life of asset
- Decrease asset account with a credit for original cost of asset

Do It! 3: Plant Asset Disposal (1 of 2)

Overland Trucking has an old truck that cost $30,000 and has accumulated depreciation of $16,000.

Assume two different situations:

1. The company sells the old truck for $17,000 cash.
2. The truck is worthless, so the company simply retires it.

What entry should Overland use to record **scenario 1**?

	Cash	17,000	
	Accumulated Depreciation	16,000	
	Equipment		30,000
	Gain on Disposal of Plant Assets		3,000

Do It! 3: Plant Asset Disposal (2 of 2)

Overland Trucking has an old truck that cost $30,000 and has accumulated depreciation of $16,000.

Assume two different situations:

1. The company sells the old truck for $17,000 cash.
2. The truck is worthless, so the company simply retires it.

What entry should Overland use to record **scenario 2**?

	Accumulated Depreciation	16,000	
	Loss on Disposal of Plant Asset	14,000	
	Equipment		30,000

Learning Objective 4

Identify the Basic Issues Related to Reporting Intangible Assets

Intangible Assets

- Are rights, privileges, and competitive advantages that result from ownership of long-lived assets that do not possess physical substance
- May have a limited or an indefinite life
- Common types of intangibles

  - Patents
  - Copyrights
  - Franchises or licenses
  - Trademarks
  - Trade names
  - Goodwill

Accounting For Intangibles

Limited-life intangibles

- Amortize to expense
- Credit asset account or accumulated amortization

Indefinite-life intangibles

- No foreseeable limit on time asset is expected to provide cash flow
- No amortization

Amortizing Patents

Illustration: National Labs purchases a patent at a cost of $60,000 on June 30. National estimates the useful life to be eight years. Prepare the journal entry to record the amortization for the six-month period ended December 31.

The annual amortization expense is $7,500 ($60,000 ÷ 8) per year. National records $3,750 ($7,500 × 6/12) of amortization.

Dec. 1	Amortization Expense	3,750	
	Patents		3,750